

DEPT. OF TRANSPORTATION
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B-H340-08-01953



Docket Management Facility
U. S. Department of Transportation
1200 New Jersey Avenue, SE
West Building Ground Floor
Room W12-140
Washington DC 20590

Dear Docket Management Facility,

Subject: Petition for Exemption from FAR 25.562, Flight
Deck Floor Warpage

Model: 737-900ER

Reference(s):

- (a) Regulatory Docket No. 28452, FAA
Exemption No. 6425A, August 20, 1999,
Boeing 737-700C/-900 Floor Warpage for
Flight Deck Seats Exemption from FAR
25.562(b)(2)
- (b) Regulatory Docket No. 28452, FAA
Exemption No. 6425, April 12, 1996, Boeing
737-600/-700/-800 Floor Warpage for Flight
Deck Seats Exemption from FAR
25.562(b)(2)
- (c) Regulatory Docket No. 26649, FAA
Exemption No. 5436, April 1, 1992, Boeing
777-200 Floor Warpage for Flight Deck
Seats Exemption from FAR 25.562(b)(2)
- (d) Regulatory Docket No. 28744, FAA
Exemption No. 6600, April 8, 1997, Boeing
757-300 Floor Warpage for Flight Deck
Seats Exemption from FAR 25.562(b)(2)

The reference (a) exemption was granted for the 737-700C and 737-900 Boeing Models. Boeing requests that this exemption be amended to include the 737-900ER. There is no design change on the 737-900ER relevant to FAR 25.562(b)(2) Amendment 25-64 from the 737-900.

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In the reference (b) exemption, the FAA stated the following: Although some cockpit floor distortions have been observed after accidents, there has not been a problem with flight deck seat separations due to floor buckling on narrow body and larger airplanes which have a minimum of 40 inches of frangible structure between the flight deck floor and the lower fuselage contour. The FAA now considers that requiring testing of pilot seats with floor warpage cannot be justified on narrow body and larger airplane. The FAA is currently developing a proposal to amend the regulation accordingly.



Considering the foregoing FAA position when granting the referenced (b) exemption and the granting of an amendment to include the 737-700C and 737-900 Models, Boeing hereby petitions for an exemption from the floor warpage testing requirements of FAR 25.562 Amendment 25-64, for flight deck seats on Boeing Airplane Model 737-900ER. With respect to FAR 25.562, the 737-900ER is unchanged relative to the 737-600/-700/-700C/-800/-900 model airplanes, which were granted an exemption as noted in references (a) and (b). Additionally, exemptions were also granted for the petitions submitted in references (c) and (d). Boeing requests that, in accordance with 11.25(b), the public comment period may not be required. This request is based on the rationale of similarity to the 737-600/-700/-700C/-800/-900 and exemptions granted on other Boeing models.

Boeing requests the FAA grant this petition for exemption at your earliest convenience to support near term deliveries. Supportive material for the request for exemption is enclosed.

Please contact this office or I. Chinsky at 425-965-3581 if you require more information.

Very truly yours,

A handwritten signature in cursive script, appearing to read "M. L. Breese".

M. L. Breese
Manager, Airplane Certification
Renton Delivery & Fleet Support
B-H340, MC 63-73, (425) 965-3563
FAX: (425) 965-3778

iec
Enclosure
cc

Name	EDT	Comments
Mr. P. Adjibly	Yes	FAA 737 Program Mgr., 6Y-01

Petition for Exemption from the Floor Pitch and Roll Requirements of FAR 26.562(b)(2) Amendment 25-64 for Flight Deck Seats on the Boeing Model 737-900ER.

The Boeing Model 737-900ER will comply with the requirements of FAR 25.562 as agreed to in the G-1 Issue Paper. Accordingly, there are provisions of FAR 25.562 which the Boeing Models 777-200, 737-600/-700/-700C/-800/-900 and 757-300 were not required to meet, specifically the floor warpage testing requirements for flight deck seats.

The 777-200, 757-300 and 737-600/-700/-700C/-800/-900 were exempt from this requirement based on the following justification:

FAR 25.562(b)(2) states that, "...where floor rails or floor fittings are used to attach the seating devices to the test fixture, the rails or fittings must be misaligned with respect to the adjacent set of rails or fittings by at least 10 degrees vertically (i.e. out of parallel) with one rolled 10 degrees."

The preamble to Amendment 25-64 states that, "Crash investigations have shown that localized cabin floor deformation can occur in survivable crashes. This has been confirmed by the controlled impact demonstration and drop tests involving transport category airplanes. The inability of some seats to accommodate such deformations, remain in place, and restrain the occupants can contribute significantly to degree of injury during a crash. The simulated floor deformation used in the dynamic tests, will demonstrate the tolerance of the seat and its attachments to deformations that could occur in an actual crash."

The preamble also states the benefit of this amendment is believed to be that, "...some lives are expected to be saved that otherwise may not have been."

This test requirement makes no distinction between passenger and crew seats, while the evidence mentioned in the preamble is believed to be based on passenger seats only. There is evidence to suggest that floor warpage has not been a significant factor in flight deck seat failures during survivable crash conditions.

The FAA acknowledged in the preamble to Amendment 25-64 that the likelihood of seats designed to meet this amendment costing more to manufacture and therefore to purchase as well as increasing the airplane operating cost due to weight increase. In order to justify the increased costs, it must be expected that some lives will be saved that otherwise may not have been. This does not appear to be the case for flight deck seats. These increased costs create an economic disadvantage for the 737-900ER without a commensurate expectation of saving lives that otherwise may have been lost.

Granting of this exemption is in the public interest because it will:

1. Not adversely affect flight safety
2. Improve the efficiency of the Model 737-900ER
3. Tend to reduce air transportation fares
4. Improve the potential for sales to foreign operators, which in turn improve the U.S. balance of payments

Similarly, based on the above justification and the precedent set on the 777-200, 757-300 and 737-600/-700/-700C/-800/-900, and the fact that there is no significant design change relevant to FAR 26.562(b)(2) Amendment 25-64 from the 737-900 Boeing requests exemption from the rail misalignment and roll test requirements of FAR 25.562(b)(2) for the Boeing Model 737-900ER.